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# M. J. MONIZ

## Berry Specialist

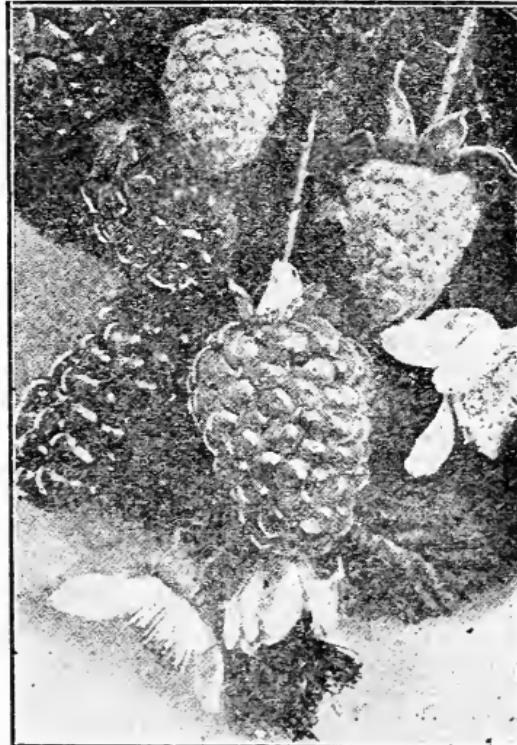
Grower and Nurseryman



## DESCRIPTIVE CATALOGUE

OF

Berry and Small Fruit Plants  
Deciduous and Citrus Fruit Trees  
Roses and Grapevines



P. O. Box 477  
SEBASTOPOL, CALIFORNIA, U. S. A.

Twenty-seven years of practical experience

# TO THE PUBLIC

This booklet was prepared for the benefit of the beginner as well as the experienced planter, and not only describes in detail the various standard commercial varieties of fruits, but also contains many other valuable points of information pertaining to the fruit industry, telling you how, when and what to plant in order to obtain results and assure success.

With my 27 years of practical experience in the Berry and Nursery business, I have developed my business to a point where I can propagate plants of high grade and quality, which always produce best results. All of my stock is propagated from select strains of record producing vines, which can be depended upon for quality and reliability.

The berry industry is now on a sound basis, and large profits can be realized from its culture. The credit for this is due chiefly to hearty co-operation on the part of the grower, which has enabled him to develop many new markets, open up many new distributing channels, and also the creating of new methods of utilizing the crop. With all of these advantages in view, it warrants anyone going into the business, without having to gamble with market conditions and being confronted with problems such as were met with in previous years.

Berries or Small Fruits are today grown in nearly all parts of California, either as intercrops or in straight fields, and in many of the Eastern States, in many localities on a commercial basis, particularly along the coast section. It is an industry of great importance, embracing a total valuation of several million dollars. While the industry presents many problems, encountered in its production, many growers are reaping rich harvests from its worthy income.

Berries are a soft, perishable product, and must be handled with care, and demand the attention of the owner or one accustomed to their culture, and to accomplish the best results attention must be paid to all the minor details connected with the production and marketing of the crop, as the principal points of success depends upon this.

## Kinds of Soil Required for Berries

**Loganberries**—Require a rich, sandy loam or sub-clay soil, and well drained, although it should retain the moisture well throughout the summer months to assure a good crop of fruit.

**Blackberries and Raspberries**—Require much the same kind of soil as Loganberries, only they will stand soil of a heavier loam type. These plants are deep-rooted and the depth of the soil should be considered. Mammoth and Himalaya blackberries will grow well in damper soil than the other varieties will stand. The heavier types of soil produce heavier crops, but are harder to cultivate.

**Currants and Gooseberries**—Do better in the heavier types of soil, and very often grow well in soil which is wet a large portion of the year. All small fruits want soil well supplied with humus, to aid in the conservation of moisture. This material should be supplied by plowing under cover crops or barnyard manure.

**Strawberries**—Are grown with the greatest success in soils of the sandy loam and clay types, also the loose gravelly soils of the lower foothill districts, and the heavier soils of the valley. This variety, especially if not irrigated, will produce smaller berries where there is not sufficient moisture. All varieties of small fruits will produce considerably more if properly irrigated, where rainfall is not sufficient to maintain moisture throughout the summer months.

## Planting

Strawberries should be planted, irrigated and cultivated according to the methods followed in their given district. In California they are grown in rows in some localities, and the greater acreage are grown in raised beds or matted rows. In this way they are irrigated with perfect ease and success. Beds are raised from 4 to 6 inches and usually rows are 300 feet long, or less.

Set plants out the first year about 10 to 15 inches apart in the row and three feet the other way. The following year put in more plants on each side of row to form a matted row, leaving one foot or more space between rows for irrigating.

Strawberries or any other kind of berry plants should be planted with great care. The plants should be set out immediately, at sufficient depth to keep from drying out. Spread the roots in fair shape and press dirt firmly around them. Plants should be set out in early spring, although strawberries should be set out in Fall if a crop is wanted the following spring. Be sure that the ground is in good condition.

Blackberries, Loganberries and Burbank Phenomenal Berries when grown for commercial purposes should be planted in rows 6 to 8 feet apart with the plants 4 to 6 feet apart in the rows. Upright varieties are planted 6 to 8 feet apart each way, so they can be cultivated both ways. In rich, moist soil plants can be set closer together, also for home gardens one-half the distance mentioned above is sufficient.

Trellis varieties can be cultivated one way after the vines are trellised on the wires the second year.

Raspberries are planted in distance according to the variety and the kind of soil in the district where they are grown, usually 3 to 4 feet, but more often in solid row with plants about 1 foot apart by 4 feet.

Currants and Gooseberries are usually planted 4 by 5 feet as bushes grow in an upright manner.

Rhubarb is usually planted about 2 to 3 feet in row by 4 feet apart and the dirt is thrown up around the parent plant after harvest is over to enable the plant to develop more subdivisions and stalks.

Asparagus for field planting—Set roots deep in ground 12 inches apart in rows and 6 feet apart. In Fall cut off old tops and burn. With plenty of cultivation and proper care a field of Asparagus will live for 15 to 20 years.

Artichokes should be planted from 2 to 3 feet in row, and 3 feet apart. To increase subdivisions cut tops off after crop is harvested.

Horseradish plant 12 inches in row and 2 to 3 feet apart, and replant every two years for good results.

## Cultivation

All kinds of small fruits require rather shallow cultivation, for the feeding roots are near the surface and are easily destroyed by deep cultivation. The land should be plowed in the Spring, at sufficient depth to cover the trash or cover crop, without injuring the roots. Blackberries, Loganberries, Currants and Gooseberries should be plowed deeper in the middle of the row, and shallower next to the plants. With the first plowing the furrows should be turned away from the vines, which makes it easier to hoe out the weeds, and then turn the furrows to the vines at the second plowing, and continue cultivating throughout a large part of the summer, or until the fruit is ready to harvest, in order to assure sufficient moisture in the ground.

Strawberries are grown on permanent beds, either in the matted rows, or level culture system. Under the former method the beds are slightly raised above the intervening spaces and the spring cultivation in this case is done with a one-horse cultivator. Under the level culture system a small plow can be used by plowing two furrows toward the middle of the row. A single cultivator can also be used for breaking the ground.

## Fertilizers

Berries are shallow rooted, and they remove a certain quantity of plant food from the surface layers of the soil. This drain must be replenished by the addition of material essential to plant life. One of the best fertilizers that can be used is an annual application of barnyard manure. There are also commercial fertilizers, which should be those containing potash, phosphoric acid and nitrogen. Caution should be used in the application of commercial fertilizers, particularly as often they will stimulate leaf and cane production and the fruit production is lessened.

## Pruning

Pruning is very essential in growing berries and should never be neglected. The old wood should be removed soon after the crop is harvested and the brush should be burned. The berry canes which bear fruit are produced one season and bear fruit the next, and after that are not useful and die before winter. Some varieties, such as Himalayas and Evergreen blackberries have perennial canes.

Upright varieties, such as the Lawton and Macatawa blackberries should have the old wood removed and the side shoots on the new canes cut back to 14 to 18 inches in length. After the main cane is topped to a height of 4 1-2 feet, the lower shoots next to the ground should be cut shorter to permit cultivating with ease. From 6 to 8 or even more canes should be left on a hill, depending upon the richness of the soil where planted. Remove all the extra suckers. These upright varieties must be tied to one stake the second year, and two stakes after the second year. Stakes should be 4 1-2 feet tall and the canes divided between them.

There are many varieties grown which we call trellis varieties, such as Loganberry, Phenomenal berry, Himalaya, Mammoth, Thornless and Evergreen Blackberry, and Dewberries. These varieties, in the Fall, should be rolled on wires of sufficient strength and not less than 3 feet above the ground for the first wire. These must be nailed with staples to stakes which are 5 to 6 feet tall and driven in the ground from 12 to 18 inches, and 16 to 24 feet apart. After the second year, when the berries have attained full growth, use two wires and place the second wire on top of the stake, thus leaving the first wire about 3 feet above the ground and the second wire 18 inches above the first wire. Next divide the canes, 2 parts with one wire, and 4 parts with 2 wires, trellising them carefully around the wires each way. After this is completed your vines are ready for cultivation in the spring.

Currants and Gooseberries are treated in an entirely different manner. The bushes grow compact in form and are treated more like a fruit tree. The young wood is usually pruned back from the top, and the fruit is mostly borne on short spurs on two and three year old wood, and sometimes on the four and five year old wood. By Spring prune back, say one-half of the new wood and new shoots will grow out, in addition to limbs and suckers that come up from the roots, although it is best to remove the suckers and let the bush grow in a tree form.

In pruning Raspberries, remove all old wood in Fall and top back ends of young wood not pruned in the summer, excepting everbearing varieties—the St. Regis, especially. From these, in the Fall, remove old wood that produced fruit the previous Spring, as canes that produced berries in Fall will bear again the following Spring, up to July. By August the new canes begin to bear and will continue until freezing weather.

## Production

In the proper kind of soil, and with the proper kind of care, Blackberries and Loganberries will produce from four to five tons of fruit per acre. Strawberries as much as 12 tons per acre. Raspberries 3 and 4 tons, and Currants and Gooseberries from 5 to 7 tons. Even if the production were one-half this amount, when considering the different outlets for the fruit, through local and

Eastern markets, canning, jam and preserving factories, and the prices being paid yearly for the berries, a good income can be realized, and one must also consider that there is no waiting for a limetime for a crop, since berries come into bearing the first and second year after planting.

## Harvesting

When berries are grown in a commercial way, this work is generally done by women and children, and very often by institutions of boys and girls who come to the country under the supervision of able superintendents, and establish their camp in some suitable locality. In this way they assist in harvesting many large fields of berries, and also earn a neat sum, besides having the change of work and climate which is beneficial to the human individual.

Large families of young children are an important factor in fruit harvesting, and while the older men work at other lines, they are earning money in the berry fields. Suitable camping grounds, camps, water, and other conveniences are provided for them by the grower.

## Marketing

For the past several years, and also for some years to come, this problem has been and is one of the least to worry over. In large producing districts marketing on a co-operative basis by organization of the growers, has been a great success and the result has been that many new markets were developed, other methods of utilizing the product established, and favorable transportation facilities to all shipping points have been arranged. All of these have helped to create a demand which has exceeded the production, and furnish us with sufficient proof that good prices will prevail.

Large canning establishments throughout the country use a great quantity of the fruit. There are also local markets in practically every city or town. In many large producing localities huge pre-cooling plants are established, where the berries are placed for several hours before being loaded in refrigerator cars for shipment to different points. By this method the fruit, often from 4 to 5 days in transit, arrives at its destination in perfect condition. It is safe to say that over 95 per cent of the berry crop is marketed co-operatively, under one head, who acts as the sole distributing agency for the growers.



# BERRIES

## Description of Different Varieties

### LOGANBERRY

Cross between the Raspberry and California Wild Blackberry. Heavy yielder! berries dark red; often 1-1-2 in. long. Flavor very tart unless very ripe. Unexcelled for table use, jelly, jam, canning and drying. Being planted commercially very extensively. Ripens a few days before the Mammoths. I strongly recommend this variety.

### MAMMOTH BLACKBERRY

An early variety, very productive, and a hardy or rank grower. Fruit of the largest size of any berry grown; berries long and black; flavor very sweet. Good, all-round berry for most all purposes. Vines trailing, like the Logan and Thornless berry, Phenomenal and Himalaya.

### BURBANK PHENOMENAL BERRY

Closely resembles the Loganberry, only the berries are larger and not so tart, a hardy grower and very profitably grown in many sections. Berries are a light red and ripen about the same time as the Logan.

### LAWTON BLACKBERRY

A medium early variety and an upright grower; a great favorite, especially in California, and particularly in the northern section. A heavy producer; fruit large, roundish, and black. A fine all-round variety.

### BURBANK THORNLESS BLACKBERRY

Introduced by Luther Burbank. A late variety; fruit jet black, fair size. A hardy grower, bearing large clusters over a long season.

### CORY'S THORNLESS BLACKBERRY

Discovered in the mountain pass of Tuolumne Co. A sprout from the common Mammoth Blackberry, the foliage and habit of growing are the same. Fruit the same only the berries have a larger core. Ripens about the same time, and an excellent variety for jams, jellies and canning.

### HIMALAYA BLACKBERRY

A late variety and long cropper. Bush grows very vigorously and does not die after fruiting. Commences to ripen after other berries are gone. Fruit medium size, of roundish shape; strong flavor; good for jams and preserves especially. Trellis variety.

### EVERGREEN BLACKBERRY

Bush is a vigorous and strong grower. Fruit is large, firm, of good quality and very sweet. This variety ripens late in the season when most all other berries are gone. A trellis variety also.

### CRANDALL'S BLACKBERRY

This variety is a strong grower and medium early. A good producer, with fruit of a round nature.

### MACATAWA BLACKBERRY

A new Blackberry. Is a bush type and requires no support. The fruit is fairly large, sweet and firm; stands shipping well. An early variety, but will not thrive in many localities. Rather hard to start growing.

## DEWBERRIES

**Gardena Variety**—An extra early variety, ahead of the Mammoth by a few days. The heaviest yielder of the Dewberry variety. Has an excellent flavor. Its season is short and the berries are gone when other blackberries come into ripening.

**Lucretia Variety**—The best late variety to plant. Ripens after the Gardena is gone. Berries large, black and sweet.

## RASPBERRIES

**Cuthbert**—A red, mid-season variety, it is the only standard variety, and is planted quite extensively in a commercial way. Fruit is large, firm and of very fine quality. A heavy bearer in the right kind of soil.

**St. Regis Everbearing**—Late introduction. Berries red; long season cropper; plant upright grower like Cuthbert; a very fine and productive berry.

**Black Caps**—An old favorite variety, especially in the Eastern States. Berries jet black, of fine flavor. Grown more in the Coast sections than in the valleys.

**Golden Queen**—Berries are of a light golden color, very sweet and rich. Fruit of medium size, but not a good shipper.

**Superlative**—A new variety. Fruit is medium to large and of fine flavor. Bush a rank grower.

**Anthwerp**—An old variety, not planted generally. Plants vigorous if planted in good soil. Fruit dark red, firm and a good shipper.

**King**—A red variety. Fruit medium to large; fairly productive. Not planted very extensively.

**Marlboro**—A close resemblance to King. Bush a good grower. Good bearer under favorable conditions.

**Strawberry Raspberry**—A combination of Strawberry and Raspberry. Bush dies to the ground in the Fall. Fruit red and shaped like a Strawberry. Very delicious, but is not a commercial variety.

## STRAWBERRIES

**New Oregon Variety**—One of the leading and heaviest yielding varieties for California Coast sections especially. Fruit very large, deep, rich red in color and possessing a very distinct flavor. An excellent variety for table and canning purposes, or for any way you want to use them. Plant a hardy grower and rather long lived. We recommend this variety particularly.

**Banner**—Closely resembles the New Oregon only the berries are not so large, but more uniform in size; is a heavy bearer and a standard commercial variety also. Fruit of deep, rich red color and fine flavor. Plant a rank grower and long season bearer. A fine canning berry.

**Ettersburg Varieties**—Extremely vigorous, upright growers, good plant makers, and well adapted to dry climates especially; berries medium size, bright red when ripe, and possessing exceptionally fine flavor.

**Everbearing Varieties**—Not grown so extensively as other varieties, although the Superb, Peerless and Progressive are the leading varieties, and in the right localities will bear fruit from early Summer until late Fall.

**Brandywine**—A medium to late variety. Berries of medium size, deep red in color, good flavor, somewhat sub-acid. Plant is hardy and productive.

**Klondyke**—Plant a vigorous grower. Berries large and red in color; of fine flavor. Good variety for market and canning purposes.

**Marshall**—A fine, dark red berry, very attractive. A good variety for jams and preserves. The berries are large and hold up well after ripening. Plants grow large and are good bearers.

**Malinda**—Plant is inclined to be small to fair producer. Fruit is medium size, firm, conic shape; flesh dark red, with firm core.

**Nick Ohmer**—An ideal market variety. An early cropper;

berries are bright red, of good size, and fine keeping qualities. A good shipper.

**Gold Dollar**—A medium early variety. Berries are highly colored and medium size. A good yielder.

**Magoon**—Good for home gardens. Berries sweet, large and red. A good bearer.

My strains of Strawberry plants are the real genuine varieties and strictly true to name.. They are secured from selected planting stock, from large acreage of selected and improved strains that have proven their real commercial value. They are not secured and assembled from small fields of different growers in different localities.

### CURRENTS

**Cherry**—Fruit large, bright red; a very strong grower and one of the leading varieties for commercial purposes.

**Fay's Prolific**—An old, standard red variety. Berries large and of a wild flavor. An early good producing variety and well known as an all round berry.

**Perfection**—Berries are medium to large, bright red; bunches long. Flavor acid. A new variety.

**Pomona**—Berries large and red and hang well after ripening. Bush is vigorous and a good producer. Good variety to plant.

**Wilder**—A red variety. Fruit medium and of good quality. Hangs on bush for a long time. A good variety.

**Red Cross**—A good, red commercial variety; very productive. Berries large and of a mild flavor; hang on bushes for a long time after ripening. A rapid grower. We strongly recommend the planting of this variety.

**Red Dutch**—Berries large, deep red; very productive also. Fruit tart or acid. A rapid grower.

**London Market**—A new variety. Berries medium in size. A late variety and fairly productive. Not planted very extensively.

**Victoria Red**—Fruit bright red, medium in size. Rather a late variety of fairly good quality.

**White Grape**—One of the leading white varieties; very productive; berries large. Not so acid as some red varieties.

**Lee's Prolific**—One of the leading black varieties. Very strong grower. Berries large and grow in bunches. A good bearer like all black currants. Fine for jellies.

**Booskoop Giant**—Berries large and black; ripen all at once, and hang well on bushes. A heavy producer.

**Victoria Black**—Berries black and small. A good variety and also very productive.

**Black Naples**—Berries very large and black. Also one of the leading black varieties.

On account of the quarantine against Black Currants in some States, because of the existence of White Pine Blister Rust, this variety has become very scarce and real good bushes, free from disease, are hard to obtain. There is no quarantine against this variety grown in California, and my stock has been inspected several times during the growing season, and is strictly first class and free from any disease.

### GOOSEBERRIES

**Oregon Champion**—A very large, sweet and brownish red variety. Plant is strong grower and very productive. A good market variety and one of the most profitable to plant. We strongly recommend this variety.

**Downing**—Bushes are vigorous and productive. Berries large and yellowish green with red dots; a sweet flavor when fully ripe. Also a good market variety.

**Houghton**—This is one of the oldest varieties. Bushes are strong growers. Berries are small, roundish, with a dull red color

when fully ripe; ripens ahead of some other varieties. A very productive variety also.

**Large English**—Berries very large. Bushes vigorous; upright grower. Not very productive.

**Industry**—English variety also. Berries of large size; color rich dark red, when ripe. Bush an upright grower and very vigorous.

**Pearl**—Berries large and pale green in color. A new introduction.

**Smith Improved**—Berries large, roundish and light yellow, with a sweet flavor when fully ripe. An upright grower, but is not very productive.

**Berkeley**—Also an English variety. Berries large and ripen early. Bush a good grower and a fairly good bearer.

### ASPARAGUS

**Palmetto**—A very popular variety for the home garden or for canning. The sprouts are green and very delicious. This variety is grown very extensively for commercial purposes.

**Connover's Colossal**—A good shipping variety and the best for market gardeners. A purple variety.

**Gi<sup>n</sup>t Argenteuil**—An excellent early variety for canning and shipping. Grown extensively in the southern part of the State. Produces large stocks of a purple tinge color.

**Columbian Mammoth White**—An excellent commercial variety, producing fine large white stocks, growing to very large size.

**Barr's Mammoth**—A very good commercial variety, producing white stocks also of very large size.

### RHUBARB

**Burbank Giant Winter Crimson**—The leading winter variety grown; practically all other varieties have been named from this one. A very robust grower and a prolific producer of mammoth stocks of fine flavor, from three to four times the size of other sorts; thrives exceptionally well during winter months. We recommend this as a good paying variety to plant.

**Strawberry**—A good producer of fine, large, tender stocks, of excellent flavor. A spring variety; is planted commercially also.

### ARTICHOKEs

**Green Globe**—This is the leading variety and we propagate them from subdivisions and not seed, as they will not come true to name the latter way. This variety produces fine large pods of extra fine flavor. A very profitable variety; is an upright grower, not a tuber, like the Jerusalem Artichoke.

### HORSE RADISH

**Maliner Kren and American**—Are two of the leading varieties, and grow to large size in the proper kind of soil, producing fine, large roots. Very profitable when grown commercially.

## Items of Importance—Please Read

Please send for PRICE LIST, if not enclosed with this booklet.

Write for special prices on quantities, as no order is too large for me.

I have described and listed only varieties that I consider are of standard commercial value, but will be pleased to furnish information on any other variety not listed here.

Berries are a good fruit to plant. In most cases they have carried an orchardist financially until his trees came into bearing, and in many cases have saved the day.

Remember that early orders naturally receive the preference, so it will pay you to order early, not only to assure delivery, but to insure getting your stock in time.

Favorable weather conditions and the usual proper care has enabled my stock to make excellent growth, therefore the quality is better than ever.

I always test the fruit and bearing quality of a parent tree or plant before propagating from it, as I feel that it is impossible to recommend any stock or plants grown otherwise

# THE ROSE

The best planting months are December, January, February and March. Under a favorable season planting can also be done in April. For best results plant in a fairly sunny location, and in good rich soil, and add, if possible, some old manure, avoiding fresh manure. Straighten out all roots when planting and pack dirt well around them as it is thrown in. Be sure that the Rose bush is planted lower than it grew, so that the bud point will be below the surface of the ground, to avoid sprouting.

The Tea Varieties (T) require more severe pruning than any other sort. Cut back to 6 or 7 inches from the old wood each year. Always keep the center of the plant open and thin out all weak wood. Leave 6 to 7 shoots, according to the size of the plant.

Hybrid Teas (H. T.) should have almost as much pruning as the Teas.

Hybrid Perpetuals (H. P.) Cut out all dead or weak wood first. Keep the center open, then cut the remaining shoots to within about 12 inches of the base, to sound, healthy wood. This method of pruning gives the plant new life. Prune very little after first year, only keeping out the dead wood.

Austrian and Hybrid Briars. (H. B.) Should be cut back fairly hard when planted, but after that keep out the dead wood.

Polyantha or Baby Roses (P.) These require very little pruning. Only enough to keep out dead wood and keep the center open.

Single (S.) Require little if any pruning after being established.

Climbers. (Cl.). These are seldom pruned as it is their duty to keep certain places covered. However, it is wise to thin them out every two or three years.

## ABBREVIATIONS

A. B.—Austrian Briar; Bank.—Banksia; B.—Bourbon; C.—China; or Bengal; Cl. H. T.—Climbing Hybrid Tea; Cl. P.—Climbing Polyantha; Cl. T.—Climbing Tea; N.—Noisette; P.—Polyantha; R.—Rugosa; T.—Tea; W.—Wichuriana; H. P.—Hybrid Perpetual.

**Golden Emblem, A. B.**—A new rose; deep golden yellow; flowers large. A free grower and sweetly scented.

**Miss Alice de Rothchild, T.**—Flowers rich yellow. Sometimes called "Bush Marchiel Niel," although hardier.

**Lady Hillingdon, T.**—Deep apricot yellow, shading to orange. A vigorous grower and a free bloomer.

**Hoosier Beauty, H. T.**—One of the grandest red roses, of a rich, velvet crimson color. Vigorous grower and free bloomer.

**Los Angeles, H. T.**—One of the finest roses ever introduced. A vigorous grower; color flame pink and coral shaded, with gold at base of petals; buds long and pointed.

**Ulrich Breuner, H. P.**—Cherry red; very large and fine form; large petals.

**Papa Gontier, T.**—Rosy crimson; fine long buds; free and strong.

**Persian Yellow, A. B.**—Bright yellow flowers, small but quiet double.

**Richmond, H. T.**—Scarlet, lightly shaded crimson; a very rich rose. Blooms freely and is very fragrant.

**Madame Edouard Herriott (Daily Mail)**—Superb coral red shaded yellow at base; flowers well formed and semi-double; magnificent color. Has flowers almost continually.

**Marchiel Niel, T.**—Flowers deep yellow; very large, globular; full, sweet-scented and vigorous.

**Cherokee Pink**—A beautiful rose of a delicate clear pink. A vigorous climber, with glossy foliage;.

**Cherokee White**—Flowers white, large and fragrant; foliage very beautiful, being fully evergreen and rich, deep lustrous green.

**Maman Cochet, Pink T.**—Light pink, shaded with salmon yellow, and outer petals splashed rose. Large and full.

**Maman Cochet, White T.**—Cream white, with edges flushed rose, otherwise same as the pink, from which it is a sport.

**Paul Neyron, H. P.**—Large Rose; the largest rose under cultivation. A splendid outside rose, and a strong, vigorous grower.

**Juliet Pern**—Outside of petals old gold; interior rosy red, changing to deep rose as flowers expand. Flowers rather large; very double and fragrant.

**Dorothy Perkins (Wicheriana Hybrid)**—Shell pink, blooms in spring only; double flowers; attractive and does not mildew; sweetly scented and a strong climber.

**American Beauty, H. P.**—The well known red forcing rose; large, full and fragrant.

**Killarney Double White, H. T.**—A pure white sport from White Killarney; has a much larger bud; has many more petals than its parent. A great forcing rose.

**Killarney Pink, H. T.**—Deep shell-pink; long pointed buds, with large flowers. Very free and perpetual.

**Killarney White, H. T.**—A sport from Killarney. It is pure white in color, long in bud, or fine form.

**K. A. Victoria, H. T.**—Creamy-white flowers of immense substance; smooth and nicely arranged.

**Killarney Brilliant, H. T.**—Same growth and style as Killarney and like it varies considerably in color; in cloudy weather is almost deep crimson.

**Gen. Jacqueminot, H. P.**—Crimson-scarlet, large, full, very fragrant. One more of the old ones that will always please.

**Gen. McArthur, H. T.**—Bright scarlet, large, full and very free. Erect branching habit and very perpetual. One of the finest and most fragrant roses grown.

**Ophelia Golden, H. T.**—Rich, apricot-yellow color, slightly paler at the edges.

**Ophelia, H. T.**—Salmon-flesh, shaded rose; fine form and excellent habits.

**Ophelia Supreme, H. T.**—Rose pink sport of Ophelia. Light rose-pink with darker shading in center and yellow at base of each petal.

**Ophelia White, H. T.**—Pure white sport. Growth somewhat stronger than pink Ophelia. Grand Rose.

**Radiance Pink, H. T.**—Brilliant rosy opaline pink; large, free and brilliant form, with sweet fragrance.

**Radiance Red, H. T.**—The Washington Red Radiance; a glowing crimson sport of Red Radiance, with all the magnificent qualities of the parent.

**Ragged Robin, or Gioire des Rosamones**—Deep crimson, semi-double, free and constant; free from disease. Used extensively for hedges and budding stock.

**Rainbow, T.**—Deep pink, beautifully splashed and striped crimson; long, pointed buds, same as Papa Gontier, from which it is sported.

**Bride**—Ever-blooming Tea; pure white, sometimes delicately tinged with pink; large, fine form; fragrant; free.

**Betty, H. T.**—Are deliciously fragrant; of large size, full and beautiful. The exquisite color being copper overspread with a golden-yellow; supported by a strong, vigorous bush. A native of Ireland.

**Bridesmaid**—Flower very large, full, perfect shape, fragrant, and a constant bloomer. Inside white, outside pink.

**La France, H. T.**—Bright satin-pink, with silver reflex. This variety will always be a heavy seller.

# FRUIT TREES

## Apples

In presenting this catalogue of the various varieties of fruits, I wish to say that while I have been specializing in Berry Culture for many years, at the same time I have been growing other types of fruits of all standard commercial varieties, and have recently enlarged my business to an extent large enough to permit me to list Fruit Trees along with Berries, in order to give my customers a more complete line to select from. All my buds are secured from record producing trees, being specially selected by me, and can be depended upon as being true to name.

**Alexander** — Large, conical, greenish yellow, streaked with orange and bright red in the sun. Flesh yellowish-white. Aug. 15 to Sept. 15.

**Gravenstein** — Large, rather flattened; skin yellow, freely marked with deep red and orange; flesh tender, crisp and highly flavored, aromatic; a strong growing tree and a very heavy bearer. Of fine eating and keeping quality. It is one of the best early or all-round apples, and open to every market of the world. It comes in at a time when there are no other apples in the market, thus creating a demand always greater than the supply. One of the most profitable apples to grow and we strongly recommend extensive planting of this variety. July 10 to Sept. 1st.

**Red June** — Medium size; flesh white, tender, juicy and sub-acid. Abundant bearer. June.

**Red Astrachan** — Large, roundish, nearly covered with deep crimson, overspread with deep bloom; juicy, rich and attractive. One of the main early varieties. June 20 to July 15.

**Jonathan** — A beautiful, brilliant red apple, very highly flavored and of excellent quality; tender, juicy and very rich. Tree is long lived. One of the best productive of Fall apples, and an excellent shipper and in great demand. We recommend further planting of this variety. October.

**Rome Beauty** — Uniformly large and smooth. Shaded and striped with bright red; a late bloomer and a heavy bearer. This is one of the old favorites and should be planted more. A fine apple of good quality; stands shipping well. This variety, like the Spitzenberg, Winesap and Mammoth Black Twig, is particularly adapted to high altitudes. October and November.

**Wagener** — Color brilliant red with a pale yellow; a fine eating apple; stands shipping well; a good winter apple; tree is a fairly strong grower but a very heavy bearer; fruit is very juicy. In great demand, being medium to large in size. Oct. and Nov.

**Yellow Bellflower** — Very large, oblong, smooth, lemon color with bluish white flesh; tender; very juicy and crisp. A very popular variety and in good demand; fruit ripens in advance of the heavy movement of other Fall and Winter apples, thus always finding a ready market. Tree is a strong bearer and very productive. September.

**Arkansas Black** — Medium to large; surface dark maroon color, shaded to black; a very firm variety; tree vigorous and productive. November.

**Mammoth Black Twig** — A native of Tennessee. Fruit large to very large, roundish, dark red, partly streaked; firm, juicy and of excellent quality; a fine keeper. Its size, appearance, eating and keeping qualities makes it a valuable market variety. Nov.

**Delicious** — Large surface, almost covered with a dark red, blending to yellow at the blossom end; very sweet, with an aroma delightfully fragrant; flesh is grained, crisp and juicy; has good keeping qualities and tree is a vigorous grower. October.

**Northern Spy** — One of the good, old types, and while it has

not been planted much recently, is still a great favorite on account of its good eating and keeping qualities; large, striped red; flesh white. November.

**White Winter Pearmain**—Medium to large oblong type; skin greenish-yellow with slight blush; flesh light yellow, tender, crisp, juicy, sub-acid. A general favorite. Tree vigorous and the best variety for replacement in old apple orchards. Nov. to Jan.

**Winesap**—Staymen yellow, striped red; firm, crisp and juicy, with a rich, sub-acid flavor. Drought resistant and grows and yields well.

**Winter Banana**—Skin golden yellow, with blush cheek; flesh lemon-yellow, fine grained and aromatic; tree vigorous and hardy: bears early for a winter variety.

**Yellow Newtown Pippin**—Smooth, greenish-yellow with brownish-red cheek; medium sized, crisp, juicy and aromatic; good keeper. Planted extensively, being a standard shipping variety as well as a family orchard favorite. December to May.

**Skinner Seedling**—A local variety of superior excellence, having no equal in its class. Large yellow, with light blush cheek. Flesh white, tender and juicy. Responds profitably to good culture. Popular in Coast counties of California. September to October.

**Spitzenberg**—Color red; flesh yellow, firm and juicy; sub-acid: delicious flavor. Splendid variety for mountainous sections. Tree is of upright habit and healthy. November to March.

**Missouri Pippin**—Large, oblate; shaded, striped and splashed light and dark red with gray dots; flesh white, inclined to be coarse; moderately juicy, sub-acid. A good red for Central California, and one of our best pollinators.

**King of Tomkins**—Large; yellowish, mostly shaded with red; flesh yellowish, rich juicy. Chiefly grown in mountain regions. ripens in Fall.

**Early Harvest**—Medium size, greenish; very early: flesh white, tinged with red next to skin.

**Yellow Transparent**—One of the very finest early apples. light yellow skin, nearly white.

**Baldwin**—Large, mostly covered with bright red; flesh yellowish-white, crisp, juicy; good quality.

## Crab Apples

**Red Siberian**—Smooth, glossy, hardy; splashed with red; firm and juicy. Extremely hardy and prolific. Excellent for jellies and preserves. October.

**Yellow Siberian**—Very similar to Red Siberian excepting the color, which is a beautiful, glossy yellow. October.

## Almonds

**I. X. L.**—Tree is a sturdy, upright grower; nuts are very large; shell soft, perfect. It bears heavily and regularly in many localities. On account of the large size and fine quality of the nut, it is desired that the production of this variety be increased.

**Ne Plus Ultra**—Tree a rapid grower; heavy and regular bearer; nuts large, very long shape; shell very soft and hulls readily. Used as a pollinizer of Nonpareil and I. X. L.. Grown preferably as a pollinizer and should be planted co-jointly with Drake's Seedling.

**Nonpareil**—Tree a strong grower, and when pollinized by Ne Plus or Drake's Seedling, or both, is an extraordinarily heavy bearer. Nut is of papershell type, well filled, firm, compact and one of the best. This nut always sells at a premium of from one to several cents a pound.

**Texas Prolific**—This variety in late years has been employed very largely as a pollinizer of Nonpareil and I. X. L., and has been rated as of equal quality to Drake's Seedling. Lately, however, on account of their later blooming than Drake's, they are not as effective as a pollinizer, while the quality of the nut is inferior to Drake's.

# Peaches

## FREESTONE VARIETIES

**Alexander**—Medium to large; greenish white, nearly covered with a deep, rich red; flesh white, very juicy and sweet, with brisk, agreeable flavor. Very early. July.

**Early Crawford**—A magnificent, large yellow peach of good quality. Its size, beauty and productiveness make it one of the most popular varieties for home use and commercial planting. Aug.

**Elberta**—Very large; skin golden yellow where exposed to the sun; flesh yellow, juicy, rich, sweet and splendidly flavored; tree very prolific and presents a handsome appearance. It is a perfect Freestone and one of the most successful market varieties. August.

**Foster**—Very large; yellow with red cheek; much like Early Crawford, but is larger and earlier. Runs very uniform in size. A fine freestone. August.

**Hale's Early**—Large, nearly round; skin greenish-white, mostly covered with red and can be readily separated from flesh when fully ripe. Flesh white, melting, juicy, sweet and most delicious; adheres partially to the pit. July.

**Triumph**—Ripens with the Alexanders and the first half of the Hale's Early; Earliest yellow peach; medium to large; part clingstone; surface yellow, deeply mottled with red; flesh bright yellow, sweet, juicy and excellent flavor. A good shipper; a sure and regular bearer. Consider them one of the best early peaches. June 12th to 30th.

**Late Crawford**—Fruit very large, roundish; skin yellow with dark red cheek; flesh deep yellow, juicy and melting, with a rich and excellent vinous flavor. August.

**Lowell**—A California seedling; large, almost perfectly round; flesh clear yellow to the pit; firm and of excellent quality; a superb canning peach, and dries well. Very prolific. August.

**Mayflower**—Introduced to the Pacific Coast a few years ago as "the earliest peach known." Results have substantiated this claim and it still holds that title. It is absolutely red all over, with white flesh of excellent flavor. As large as Alexander and ripens two weeks earlier. June.

**Decker**—(Also known as Sawyer's Seedling). A white, Free-stone seedling of excellent quality. Originated at Vacaville. Large to very large; surface white mottled with red; flesh white, delicious and juicy; texture firm. A good shipper, regularly productive. A large size, particularly desirable shipping peach. Also is splendid for home use. July 5 to 15th.

**Salway**—Large; yellow with crimson cheek; flesh deep yellow; very juicy, melting and rich. The most valuable late variety. Sept.

**Strawberry**—Medium size, oval; skin marbled with deep red; flesh whitish, juicy, rich and of a very delicious flavor. August.

## CLINGSTONE VARIETIES

**White Heath Cling**—The most delicious of all Clingstones; very large; skin downy, creamy white, with a faint blush of red in the sun; flesh greenish white, very tender, and exceedingly juicy, with the richest highest and most delicious flavor. September.

**Henrietta Cling** (Levy's Late Cling)—A most magnificent yellow Cling of largest size; skin mostly covered with bright crimson; hardy, productive and ripens late. September.

**Phillip's Cling**—Large, yellow, flesh clear yellow to the pit, which is very small; exceedingly rich and highly flavored. One of the best canning sorts. September.

**Strawberry Cling**—Large, yellow striped with red; flesh white, red around pit; heavy and uniform bearer. September.

**Tuscan Cling**—Large, yellow; red at pit; heavy bearer; best of all Clings; fine shipper. In great demand by canneries because of early ripening, as it is first Cling to ripen. August.

## Apricots

**Blenheim**—Above medium; oval; flesh deep yellow, juicy, and fairly rich; vigorous grower and regular, prolific bearer. July.

**Hemskirke**—Strongly resembles Moorpark in size and color, but differs in better bearing, and ripening a little earlier and more evenly. August.

**Moorpark**—One of the largest, most popular and widely disseminated varieties; deep orange or brownish red; flesh quite firm, bright orange, parting freely from the stone; quite juicy, with a rich, luscious flavor; a favorite canning variety. In some sections a shy and irregular bearer. August.

**Royal**—A standard variety; skin dull yellow, with an orange cheek; flesh pale orange, firm and juicy, with a rich, vinous flavor. Equally valuable for canning and drying. July.

**Tilton**—Large, oval, slightly compressed; flesh firm, yellow and parts readily from the stone; heavy and regular bearer; seems to be more exempt from late frosts than any other variety. July.

## Cherries

**Bing**—Large, dark brown or black; very fine, late; vigorous grower with heavy foliage; a good shipping variety. July.

**Black Tartarian**—Largest size; bright purplish black; flesh purplish, thick juicy, very rich and delicious; tree a remarkably vigorous, erect and beautiful grower and an immense bearer; the best of the black cherries. June.

**Burbank**—A highly flavored cherry, somewhat larger than the Black tartarian and ten days earlier. June.

**Lambert**—Large size and good quality; deep, rich red; flesh firm and flavor unsurpassed; excellent shipping variety; regular and heavy bearer. July.

**Lewelling (Black Republican, Black Oregon)**—Large size; a cross between Napoleon Bigarreau and Black Tartarian, having the solid flesh of the former and the color of the latter. Very late and good. July.

**Royal Ann**—Pale yellow, richly mottled with red; large to extra large; very firm, juicy and sweet; good eating and magnificent for display; a good shipper. Canned they have no equal; very productive. They are good sellers in both Eastern and Pacific Coast markets. Owing to the rapidly growing demand for canned Cherries, this variety has a good future, and we do not hesitate to recommend them for extensive planting. May 18 to June 20.

## Sour, or Pie Cherries

**Early Richmond**—Red, acid; valuable for cooking; very productive. July.

**English Morello**—Large, dark red, nearly black; tender juicy, rich, acid; productive and late. July.

## Plums

**Bavay's Green Gage (Reine Claude de Bavay)**—Large, roundish; greenish yellow; fine flavor; highly recommended for canning. September.

**Beauty**—A late introduction, having been accorded a leading place by the growers of shipping plums. Tree a remarkably vigorous, upright grower. Fruit beautiful, oval, crimson, with amber-crimson flesh. The largest of the early plums and ripening ten days earlier than Santa Rosa. June.

**Burbank**—Large, rich cherry red, slightly mottled with yellow; flesh deep yellow, juicy, very sweet when fully ripe; agreeable flavor; tree vigorous grower; bears early and is extremely productive. August.

**Climax**—Very large, heart shaped; skin thick, firm; deep vermillion red; flesh yellow. Commands a good price in Eastern markets. Vigorous grower and very productive. August.

**Jefferson**—Large, oval; yellow with reddish cheek; flesh very rich, juicy, luscious, high flavor; very fine canning variety. Aug.

**Kelsey's Japan**—Very large; greenish yellow, covered with red on the sunny side; flesh very solid and firm when ripe; juicy with a rich, vinous flavor; pit very small. August.

**President (New)**—An English plum of recent introduction. Fruit uniform and shaped like yellow egg. Skin purple; flesh is yellow and of fine texture. September.

**Santa Rosa**—Regarded as one of the best Japanese type of plums. Very large; deep purplish crimson color, with pale blue bloom. Flesh yellow streaked and shaded with crimson. As a shipping plum it has few equals.

**Satsuma**—Fruit large, nearly round; dark red; flesh dark red; solid color from skin to pit; firm, rather juicy, fair flavor; pit very small; extremely productive. June.

**Shropshire Damson**—The tree of this variety is a strong grower and exceedingly productive. The fruit is small, oval in shape, with a purple skin covered with a thick blue bloom. The flesh is tart and separates readily from the pit. One of these should be included in every home orchard.

**Washington**—Very large; roundish; greenish yellow, sometimes with a pale, crimson blush; flesh yellow, firm, very sweet and luscious. August.

**Wickson**—Very large; yellow; flesh firm, sugary, pit small; remarkable for long keeping. Tree vigorous and upright. August.

**Yellow Egg**—Very large; egg-shaped; yellow skin and flesh; rather acid until very ripe, when it becomes sweet. September. A good canner.

## Prunes

**French**—The well known variety so extensively planted for drying; medium size, egg-shaped, violet purple; juicy, very sweet, rich and sugary. Very prolific. August.

**Imperial**—This has proved to be the largest and finest prune cultivated in California. With its uniformly large size, reddish or light purple color; thin skin; in sweetness and high flavor it stands ahead of all other prunes. Always commands the highest price in the market. August.

**Robe de Sargent**—Medium size; oval; skin deep purple, approaching to black; flesh greenish yellow, sweet and well flavored; a valuable drying and preserving variety. Dries larger and darker than French. August.

**Silver**—A seedling of Coe's Golden Drop, with which it is almost identical. Bears heavily in some districts. September.

**Standard**—Originated by Burbank. A very meritorious variety for shipping green. Thus far not much in demand for drying. Sept.

**Sugar**—Extremely early, very large, with a yellow flesh, tender and rich in sugar; tinted with green, changing at maturity to dark purple; valued in localities where French prune ripens too late for sun drying. Tree an unusually vigorous grower and very productive. August.

**Tragedy**—Medium size; skin dark purple; flesh yellowish-green; very rich and sweet; freestone. Its early ripening makes it very valuable for shipping. July.

## Pears

The Letters (S), (F) or (W) following Each Name Indicates Whether it is a Summer, Fall or Winter Variety

**Bartlett (S)**—Large, smooth, clear yellow; flesh white juicy, buttery and highly perfumed. The most popular sort in this State; the best early variety and has no competitor for market or canning. August.

**Buerre Bosc (F)**—A large and beautiful russety sort, very distinct, long neck; melting, high flavored and delicious. September.

**Beurre Clairgeau (F)**—Very large; pyriform. One of the earliest and most prolific bearers. September.

**Beurre d'Anjou (F)**—large, russety yellow, often with a fine red cheek; flesh perfumed, buttery and melting. October.

**Beurre Hardy (F)**—Large, cinnamon russet; with sometimes a red cheek; juicy, melting, very pleasant flavor. September.

**Easter Beurre (W)**—very large; yellowish green; fine grain; very buttery, melting and juicy, with a sweet, rich flavor. One of the best keepers. October.

**Winter Nelis (W)**—Medium size, dull russet; melting, juicy buttery and of the highest flavor. October.

## Walnuts

**Eureka**—Tree is remarkably vigorous, upright grower, leaves and blooms fully three weeks later than seedlings of the Santa Barbara soft shell, and is therefore desirable in localities subject to late frosts. An immense producer. Nuts large, elongated and tightly sealed.

**Franquette**—Nuts very large, long and pointed; kernel full-fleshed, sweet and rich; buds out late in spring. Never fails a full crop here. Probably the best French sort for commercial purposes.

**Mayette**—One of the best. Nuts large and uniform, decidedly flattened at base; shells light colored; tree hardy, buds out late and bears abundantly.

## Chestnuts

**Italian (Spanish)**—A highly ornamental and free-growing tree with beautiful foliage. Nuts large and fairly sweet, but are not always of as large and uniform size as those from grafted trees, because of their being seedlings.

## Quinces

**Apple (Orange)**—Large, roundish, with short neck; beautiful bright golden yellow; an old favorite. September.

**Pineapple**—Fruit very large, apple-shaped, clear yellow; flesh very tender; can be eaten raw, like an apple; makes a highly-flavored jelly. September.

**Smyrna**—Extremely large, elongated; lemon yellow; cooks tender and has a fine flavor; long keeper; tree a strong grower with heavy foliage; very prolific. Ripens with Orange. September.

## Olives

**Manzanillo**—Large, of a deep black color, dotted with white specks when fully ripe. Makes fine pickles of the very best quality, and produces oil of very high grade. In order to make a firm pickle it must be picked a little greener than the Mission. Tree is hardy and prolific and regularly productive.

**Mission**—Fruit large, of a deep black color; makes a fine, firm pickle of the very best commercial quality and produces oil of high grade. This old standard sort, introduced by the Spanish padres, is more extensively cultivated than the sum of all other varieties. Can be picked fully ripe for pickling, and will make a firm pickle. Ninety per cent of all Olive planting is of this variety, and they are, without exception, the most profitable for commercial planting.

**Sevillano (Queen Olive)**—When ripe, of bluish black color; extra large; makes splendid pickle; to make firm pickle must not be picked fully ripe. Tree is of rapid growth, but in most localities is a very shy bearer. Is not desirable for commercial planting, though a good variety for home orchard.

**Ascolano**—A superb Italian Olive of increasing popularity; fruit handsome and extremely large, often equaling in size the French Prune, to which it is similar in shape. These qualities make it a favorite among fancy picklers, who find an increasing demand for this variety put up in bottles. Tree a strong grower and good bearer. October.

## Persimmons

**Hachiya**—Very large, oblong, conical, with short point; very showy; skin bright red with occasional dark spots or blotches and rings at the apex; flesh deep yellow; sometimes having occasional dark streaks, with seed. Astringent until ripe, then very fine. Tree vigorous, shapely and prolific.

**Hyakume**—Early, large to very large; somewhat flattened at both ends; skin light bluish yellow; flesh dark brown, sweet, crisp and meaty; non-astringent; good while still hard. Tree of good growth and a free bearer.

**Tane-Nashi**—Large to very large; roundish, conical, pointed, very smooth and symmetrical; skin light yellow, changing to a bright red at full maturity; flesh yellow and seedless; quality very fine. Tree is vigorous and bears well, though not as prolific as some.

## Figs

**White Adriatic**—Fruit very large; skin greenish yellow and thin as tissue paper; pulp is of carnation color, very aromatic.

**Calimyrna**—The genuine Smyrna Fig; large to very large; skin lemon yellow; pulp reddish amber, sometimes turning to dark amber just before falling. Tree of spreading habit, leaves medium to large and five-lobed. Dries readily and with less trouble and ex-sours when planted in dampest locations. Comes into heavy production the Capri Fig, one tree of Capri every 25 of Calimyrna.

**Kadota**—Medium sized; thin, white skin; pulp white to pink; one of the best for canning, preserving and pickling, being contracted at remunerative prices by canners for this purpose. Never sours when planted in dampest locations. Comes into heavy production very early.

**Mission**—Large, black. More largely grown in California than any other Fig. Tree a rapid grower and an early and heavy bearer, while the dried product is in great demand at remunerative prices. This old standby is one of the best and most reliable for profit.

## Loquat

**Advance**—Worthy of its name; a decided advance over other sorts; fruit elongated; larger than Giant; proportion of flesh to seeds larger than usual.



# GRAPES

## American Varieties

**American Grapes**, or, as called in California, "Slip Skin Grapes," should be planted more generally, particularly for table use and arbors. No other variety climbs equal to these.

**Concord**—Bunch and berry very large; blue-black, sweet, pulpy and tender. August.

**Catawba**—Bunches medium-size; berries large, coppery color, covered with a thin lilac bloom; juicy, sweet and musky. Celebrated for its fine juice and jelly.

**Delaware**—One of the best flavored American grapes; bunches medium, compact; berries small, round, beautiful light red; pulp sweet and tender; juice abundant, rich and vinous.

**Niagara**—Bunches large, uniform, very compact; berry large, mostly round, lightish green white, slightly ambered in the sun: peculiar flavor and aroma; enormously productive. Very fine.

## Foreign, Table, Raisin Varieties

**Black Hamburg**—A fine, tender grape, producing large, magnificent, compact bunches; berries black, very large and oblong. a great favorite everywhere.

**Cornichon**—Berries very large, oblong; dark blue, almost black, covered with a beautiful bloom; skin rather thick; a good shipping grape. October.

**Emperor**—Clusters large; berries large, oval, rose-colored; one of the most valuable grapes for shipping long distances. Does not ripen well near the coast. October.

**Flame Tokay**—Bunches very large and handsomely formed; berries large; skin thick, pale red or flame colored; flesh firm, sweet, with a sprightly flavor; a splendid shipping grape. Sept.

**Malaga**—Vine a strong grower and immensely productive; bunches very large, loose, shouldered; berry very large, oval, yellowish-green; skin thick, fleshy. September.

**Muscat**—Bunches large, long and loose; berries large, slightly oval, pale amber when ripe, covered with a thin, white bloom; flesh firm, brittle, exceedingly sweet and rich; fine flavor; the variety most extensively planted for raisins. September.

**Sultana**—Bunches compact, tapering; berries rather small; skin thin, green, semi-transparent, becoming pale yellow as it ripens; pulp tender, seedless. August.

**Thompson's Seedless**—Resembles Sultana in some respects, but in others is much superior; bunches large and long; berries yellow, seedless. Very heavy bearer in favorable sections. August.

**Feher Zagoa**. Vigorous, hardy and productive; bunches large and compact; berries oval, yellowish green; flavor very fine; valuable sherry grape. August

**Grenache**—A strong-growing variety; bunches conical, rather loose; berries bluish black; makes excellent grape juice, but requires age. September.

**Mission (California)**—The well-known variety cultivated at the missions by the Spanish padres; strong, sturdy grower, bearing large, black berries; valuable for grape juice. September.

**Petite Syrah**—One of the best claret grapes; very vigorous grower and remarkably productive; cluster loose, long and shouldered; berries of medium size, black, covered with bloom. Sept.

**Zinfandel**—Bunches large, compact; berries round, dark purple, covered with a heavy bloom, succeeds well in most any climate; the best all-round variety for California. September.

# CITRUS FRUITS

## Oranges

**Washington Navel**—In California it has reached its highest stage of perfection and stands in the lead of all other varieties for its large size, lusciousness and sweetness of pulp. The most extensively planted variety on the market. September to March.

**Valencia Late**—Large; reaches the market when all other varieties are gone. Second only to Washington Navel in the extent of its dissemination. The summer orange of California. Ripens from June to September.

## Lemons

**Eureka**—Tree nearly thornless, of rapid growth and prolific bearer; fruit medium size, sweet rind; a good keeper; few seeds. Very popular, especially in coast regions.

**Lisbon**—Tree of largest growth; thorny; fruit medium size, oblong, fine grained; rind of medium thickness; strong acid; few seeds. A good keeper.

**Villa Franca**—A strong-growing variety; thornless or nearly so; fruit oblong, juicy and nearly seedless; withstands lower temperature than any other variety.

## Pomelos --(Grape Fruit)

**Marsh Seedless**—One of the most popular varieties; nearly seedless; large, roundish; skin smooth, lemon yellow; very juicy and of excellent quality.

## Pomegranates

**Wonderful**—The largest and most attractive. Valuable for shipment. Ripens early. Pulp a rich garnet color with abundance of juice, dark as port wine; exquisite flavor. October.



## Root Stocks and Their Adaptability

**Myrobalan**—A species of wild plum employed as a root stock upon which to propagate Prunes, Plums, Apricots and Almonds.

Myrobalan is a very hardy, thrifty grower; is a deep feeder and will thrive well in heavy soil or on locations subject to a short period of excessive moisture, though no root stock will take kindly to a long-continued water-logged condition.

Myrobalan will thrive in soil too wet for Peach, Almond or Apricot root, and will endure the same amount of moisture as Standard French Pear root.

The conditions most favorable to the Myrobalan root are deep, rich black or sandy loam (such as bottom land location) or a deep, fertile, heavy black soil, such as is common in our coast valleys, and on some interior valley locations. Like any other tree, on dry locations it is benefitted by irrigation, but being a deep feeder, it penetrates to moisture.

Myrobalan is, without exception, the best stock for Prunes, Plums and Apricots on any location, subject to more moisture than an Apricot, Almond or Peach root will endure, though on any location adapted to Peach root, Prunes on Peach are always preferable to Prune on Myrobalan. This is also true of Plums. Almonds should never be employed on Myrobalan root. They grow a dwarf tree.

**Peach**—Should be planted only on locations subject to good drainage. Peach root will thrive on well drained creek and river bottom locations where the soil is not water-logged for a long period. Being a surface feeder, it does well in the more shallow soil locations where the bedrock and hardpan come within 1 1-2 to 2 feet from the surface.

Peach root thrives well and is benefitted by irrigation. Peach root is the only stock to be employed on which to propagate a Peach of any variety. No variety of Peach will take kindly to any other root.

The Peach root should be employed for Plums and Prunes on shallow soil, on decomposed granite, or on a light, sandy formation, or on any heavy loam or river bottom land adapted to the Peach root, bearing in mind always that Prunes particularly should be planted on Peach root on any location adapted to Peach root.

Peach will endure a greater degree of moisture than Almond, and on any location under irrigation, or on any location where the water level is too near the surface for an Almond root, or too wet for an Almond root, Peach is preferable to the Almond as a root stock for the Almond, and on a great many locations on which Almond on Almond are now planted.

**Almond**—Almond root is a deep feeder and is well adapted to any well drained location of good depth of soil. Almond root should never be planted where the soil is of slow drainage, or where the soil is subject to a short period of excessive moisture, or where the water level comes to within six feet of the surface.

On a location not subject to irrigation, well drained and of good depth of soil, Bitter Almond is the best stock for the Almond. Under irrigation, in shallow soil, or on locations inclined to slow drainage, the Peach is preferable as a root stock for the Almond.

For Plum and Prune on hillside location under irrigation, but of good depth of soil, Bitter Almond will make a desirable root stock (though for Plum and Prune would recommend the use of either Myrobalan or Peach root on any location adapted to latter.)

**Apricot**—Apricot root requires practically the same soil conditions as does the Peach, and will thrive in any deep, well drained location. Will endure more moisture than the Almond root but not any more than the Peach, and not as much as the Myrobalan.

On bottom lands of heavy clay loam locations, the Myrobalan root should always be employed for the Apricot.

**Mazzard Cherry**—Mazzard Cherry is a deep feeder and thrifty grower, and while it will not endure "wet feet," yet it will thrive on any location adapted to Peach or Apricot root, and will endure more moisture than the Mahaleb root.

Mazzard is also less subject to gumming and die-back than

Cherry on Mahaleb. Mazzard is employed only as a root stock for Cherry.

**Mahaleb Cherry**—Mahaleb Cherry will not endure the same amount of moisture as the Mazzard, requiring more perfect and more rapid drainage. Mahaleb is inclined to surface feeding, and by some planters is deemed a better root stock for Cherry on shallow and less fertile soil locations than the Mazzard.

A small percentage of the Cherries planted are on the Mahaleb root.

**Standard French Pear**—The Standard French Pear Seedling has been employed a great many years in California as the standard root stock for Pear. It will thrive on a great many locations; will endure a larger amount of moisture or poor drainage, as well as considerable flooding, such as is sometimes experienced on river or creek bottom locations.

French Pear will thrive in most any soil, though like any other root stock, will take most kindly to deep, fertile, well drained locations.

The French Pear is deemed preferable to the Keifer Pear, employed in the East as a root stock, and is employed more largely than any other on which to propagate Pear.

**Japanese Pear**—A seedling stock employed in Japan and China on which to propagate the Pear. Has been employed as a root stock for Pear in the Northwestern States for a period of years.

Heretofore the information available to horticultrists relative to the desirability of the Japanese Pear as a root stock for Pear has been rather indefinite, it having been hardly sufficiently long under observation to definitely determine its merits as a root stock. Within the past few years, however, in our investigations we have learned definitely from numerous reliable horticultural authorites, who have had the Japanese Pear as a root stock under observation for a period of 12 to 15 years, as to its desirability as a root stock. Its merits have been thoroughly tested and it has proven O. K. in the following features:

First—Is practically immune from attack of woolly aphid.

Second—Resistant to pear blight.

Third—Is a thrifty grower and is as desirable in that respect as the French.

Will do well on any location adapted to the French Pear Seedling, except that it will not endure quite the same amount of moisture as the French Pear. It is well adapted to all river bottom or heavy loam locations that are of good drainage.

**Quince**—Quince root will endure more moisture than Pear, Myrobalan or any other root employed as a root stock. It is used most largely on which to propagate the Quince. Is used also to some extent for the propagation of Pear and Apple. Pear and Apple, however, on Quince root will grow a dwarf tree, and for commercial purposes a dwarf tree is not as profitable nor as desirable as a standard. Quince will thrive well on any soil or location adapted to any other root stock for fruit, and will endure more moisture than any other.

**Pincholine Olive**—Pincholine will grow a deeper feeding root system, and is a more thrifty grower than a root system from a cutting of the Mission or other propagated varieties. Without a doubt a better root stock for the Olive than a root system grown from a cutting.

**Apple Seedling**—Crab Apple Seedling is the root stock most commonly employed for the propagation of the Apple. Will thrive and do well on any location adapted to Pear root. Will endure the same amount of moisture as the Pear, but will do best on all deep, fertile, well drained locations.

## Hints on Transplanting

The situation of the orchard having been decided on, the ground should be deeply plowed, subsoiled and thoroughly pulverized. The holes should be dug at least a foot larger in every direction than actually required by the roots when spread out in their natural position. In planting, the top soil should be broken down into the hole, and worked carefully in between every root and fiber, filling

up every crevice, that the root may be in contact with the soil, and the whole made quite firm as the filling up progresses. The tree, when planted, may in light soils, stand from two to three inches deeper than it stood in the nursery, but in heavy clay or wet ground it is advisable to have it stand at the same height as it was before transplanting.

It is very important to whitewash the bodies of all fruit trees, and, in addition to this, protect them with tree protectors. This prevents both the attack of insects and sunburn.

## Planting Distances

Standard Apples .....	25 to 30 feet
Standard Pears .....	24 to 30 feet
Dwarf Pear .....	12 to 15 feet
Strong-growing Cherries .....	24 to 30 feet
Duke and Morello Cherries .....	18 to 24 feet
Standard Plums and Prunes .....	24 to 30 feet
Peaches and Nectarines .....	24 to 30 feet
Apricots .....	24 to 30 feet
Figs .....	25 to 35 feet
Olives .....	30 to 35 feet
Citrus Trees .....	22 to 30 feet
Walnuts .....	40 to 50 feet
Almonds .....	24 to 30 feet
Grapes .....	6x6, 6x12 and 8x10 feet
Currants and Gooseberries .....	3x4 feet
Raspberries and Blackberries .....	3 to 4 by 6 to 8 feet
Strawberries for field culture .....	1 to 1 1-2 by 4 to 5 feet
Strawberries for garden culture .....	1 to 2 feet apart

## The Caliper, Not the Height, Determines the Grade of the Tree

We have for several years been grading our trees by caliper instead of by height, and as a result, a whole lot of trees that we put out, for instance, as our 3-4 ft. grade, graded by caliper to 3-8 to 1-2 in. diameter, two inches above the bud, would, instead of being a 3-4 ft. tree, measure in length 4 to 6 ft. and oftentimes, as is the case of Prunes and Plums, 6 to 8 ft.

As a result, many other nurserymen, grading by length, would be putting out trees, for instance, as a 4 to 6 ft. that we, in our grading would put out as 3 to 4 ft. This tends to confusion, and, in view of the fact that the length never determines the grade of a tree, but the caliper and stockiness always determine the grade, we have determined to designate trees by caliper, as they should be, and not by length, inasmuch as the length does not mean anything, and merely allows some scalawag nurseryman to force the growth of their stock by suckerizing high, making them grow long and spindling, so as to get them into the higher grades, losing sight of the important feature, and that is, the caliper and stockiness of the tree.

We have, therefore, adopted the following specifications of grades:

- 3-4 in. and up in caliper (formerly designated as 6 to 8 ft.)
- 1-2 in. to 3-4 in. in caliper (formerly designated 4 to 6 ft.)
- 3-8 in. to 1-2 in. in caliper (formerly designated 3 to 4 ft.)
- 1-4 in. to 3-8 in. caliper (formerly designated 2 to 3 ft.)
- 3-16 in. to 4-16 in. caliper (formerly designated as 18 to 24 in.)

In Plums, Prunes, Pears and Cherries 3-4 in. and up will be the largest grade.

In Peaches, Apricots and Almonds, 1-2 to 3-4 in. will be the largest grade, and this grade in peaches, Almonds and Apricots will include all trees grading up to 1-2 in. and up.

Figs and Walnuts being of uneven and very heavy caliper, will, as heretofore, still be graded by length.

## GRAPES

Grapes will be graded in two grades. Standard Grade must have six inches or more of top growth and have good roots. Heavy Grade must have ten inches or more of top growth; vines must be of large caliper and have good roots.

## Shipping Season

My shipping season commences about Nov. 15th on Fruit Trees, 1 year Transplants, Sucker Plants, Roses, Rhubarb, Currants, Gooseberries, Asparagus, HoresRadish, Hop Roots, Artichokes and Strawberries.

Rooted Tips are not ready until about Dec. 1st. A great deal depends on seasonal conditions, as some varieties of stock, as well as trees, must be dormant before we proceed to dig them.

## Transplants, Sucker and Tip Plants

For the benefit of my customers I will explain the difference between Transplants, Sucker and Tip Plants. The former are plants lined out in the nursery the previous Spring and grown from tips, dug up in the Spring. These have large branch roots. Sucker plants are those grown from roots of the parent plant between these plants, and like the Transplants, are much hardier and larger. The Tips are grown from the running vines only on trellis varieties and are only available in the Spring. These while more tender and younger, are much preferred for large acreage plantings, being less expensive, and suitable at that time of season when planting takes place.

Many of these varieties listed are being grown on my large BERRY FARM and NURSERIES of over 100 acres, the largest berry farm managed by one person, or perhaps the largest in the world. Visitors are welcome to inspect them.

I ship only large, thrifty, well-rooted, true to name plants, propagated from select strains of record producing vines, which can be depended upon for quality and reliability.

## Number of Trees or Plants to an Acre

	Equilateral Square Method	Triangle Method
1 foot apart each way, No. plants.....	43,560	50,300
2 feet apart each way, No. plants.....	10,890	12,375
3 feet apart each way, No. plants.....	4,840	5,889
4 feet apart each way, No. plants.....	2,722	3,130
5 feet apart each way, No. plants.....	1,742	2,011
6 feet apart each way, No. plants.....	1,210	1,397
7 feet apart each way, No. plants.....	807	928
8 feet apart each way, No. plants.....	680	785
9 feet apart each way, No. plants.....	537	620
10 feet apart each way, No. plants.....	435	502
12 feet apart each way, No. plants.....	302	348
14 feet apart each way, No. plants.....	222	256
15 feet apart each way, No. plants.....	192	222
16 feet apart each way, No. plants.....	170	195
18 feet apart each way, No. plants.....	134	154
20 feet apart each way, No. plants.....	109	125
22 feet apart each way, No. plants.....	90	104
24 feet apart each way, No. plants.....	75	86
25 feet apart each way, No. plants.....	69	79
30 feet apart each way, No. plants.....	48	55
35 feet apart each way, No. plants.....	35	40
40 feet apart each way, No. plants.....	27	31

## Stock Grown on Contract for Future Delivery